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ABSTRACT

Designed as a forum for issues pertinent to education at the two-year college level, this journal contains articles and dissertation abstracts by professionals at community colleges in New York. The articles are: (1) "Imagery, Visualizations, and Music: Implications for Learning Using the Right Hemisphere," by Shirley Aaronson; (2) "The Impact of Physically Disabled Students on Curriculum," by Bruce R. Halverson; (3) "Predicting Achievement Using Selected Intelligence Factors in an Urban Community College Introductory Accounting Course," by John P. Gorham; (4) "The Critical Thinking Dimension of John Dewey and Its Impact on Teaching," by Victor P. Maiorana; (5) "Risk Taking Behaviors Compared to Critical Job Variables," by Edward A. Petronio; (6) "Are Our Educational Administrators Really Competent?" by Fred Mayerson; and (7) "Integrating Black Literature into an Age of High Technology," by Rennie Simson. Abstracts are provided for dissertations by Jonas Falik ("The Measurement of Specific Outcomes of the College Discovery Program of the City University of New York") and Martin H. Levinson ("A General Semantics Approach to Alienation"). (LAL)

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EDUCATIONAL DIMENSIONS was developed as a publication in which all levels of professionals in the two-year colleges can share experiences and scholarly achievements. Articles accepted will be published at the discretion of the Editorial Board whenever such publication seems feasable.

JOURNAL OF PROFESSIONAL PAPERS

EDUCATIONAL DIMENSIONS

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PRESIDENT'S MESSAGE

EDUCATIONAL DIMENSIONS was created to further the "professional growth of the two-year colleges" and to function as an "open forum" in which issues pertinent to education at this level could be aired. As the word "dimensions" implies, education should be limitless, expansive, mighty, and comprehensive. There is no end to education. It is a continuum of learning during a lifespan. Professionals at the two-year college reflect a broad spectrum of interests; namely adult and continuing education, personnel development, admininstration, special education for the physically disabled, general education, and career preparation. As a united body, we can continue to strengthen our programs and turn our institutions into animated places of learning with action and excitment. A positive attitude and a desire to become involved in professional and institutional activities provide the ingredients that are vital for thriving institutions of learning. Concomitantly, all of those persons in the business of learning who have been involved will have the fortitude to react to indifferent and cavalier administrators and educators whose primary goal is self-perpetuation.

EDUCATIONAL NETWORKING: FOCUS ON PROGRESS is this year's theme of the New York State Association of Two-Year Colleges. Networking is one important vehicle through which the above statements become a reality and through which awareness of the state-of-the-art in higher education is fostered. In this issue of **EDUCATIONAL DIMENSIONS,** networking occurs through written communications in which a sharing of articles on a diversity of topics is presented. Some of the topics addressed are on semantic networking for improved learning, forces which impacted on curricula, and predictive factors in determining success in a specific college course. Another major networking approach of NYSATYC this year was in the planning of the 38th Annual Conference at the Sheraton Inn-Buffalo East in Buffalo, New York. This was the culmination of the work of a dedicated group of leaders from NYSATYC and two other educational organizations who networked to present a program that would serve the needs of all two-year college personnel.

This journal reflects a mutual effort of dedicated educators and administrators and a commitment to higher education which provides the strength necessary to promote professional competence and meaningful institutions.

BLANCHE ETTINGER
PRESIDENT, 1983-85

PART I

ARTICLES

IMAGERY, VISUALIZATIONS, AND MUSIC: IMPLICATIONS FOR LEARNING USING THE RIGHT HEMISPHERE

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The collaboration between neuroscientists and educators is being reported more frequently in research on learning. This trend toward "neuroeducation" is occurring because of several developments including increasing knowledge of brain/behavioral dynamics, and the realization by educators that learning can no longer be considered as a "mental activity" operating in isolation without understanding some of the psychological and physiological dynamics occurring in the brain as well. In addition, this marriage of professions has yielded important insights relating to the contribution of each hemisphere to learning as well as an increased appreciation of neurological implications to explain some types of language difficulties (Wittrock, 1977; Restak, 1979; Ramirez, 1982; Springer & Deutsch, 1981; Hynd & Hynd, 1984).

Restak, (1979) calls the brain "the last frontier," because of the unknown regions of the brain which still need to be mapped. As a result of the great advances in medical technology that are providing a window on the brain, more and more areas are being mapped and analyzed as to their functioning and impact on language. This "cerebral geography" is helping to transform our knowledge of the workings of the brain, particularly when there is a dysfunction or breakdown in learning.

According to findings over the years, the brain consists of two asymmetrical hemispheres, each specializing and affecting information processing in different kinds of ways (Geshwind, 1972). The left hemisphere, for the majority of the population, is responsible for linguistic-semantic abilities, short term auditory memory, and phonetic analysis. In order for reading to occur optimally, all the regions must be intact; and lesion or breakdown in the neurological chain or pathway may lead to linguistic-semantic difficulties such as some form of dyslexia (Hynd and Hynd, 1984).

Since reading and the major portion of school learning are processed in the left hemisphere, the left hemisphere was considered dominant whereas the right hemisphere was relegated to minor status. This prejudice was changed when Sperry and his colleagues studied the effect on fuctioning after splitting the corpus callosum in man (network of fibers connecting the two hemispheres) and found that each hemisphere was not only different and capable of a separate emotion and consciousness, but that each hemisphere contributed to the sum total of mental functioning (Sperry, 1982). Numerous studies followed which gave further proof of not only the dichotomization of functioning but the existence of "two modes of consciousness" in man (Ornstein, 1977).

In contrast to the left hemisphere which processes information sequentially and analytically in such operations as verbalizing, abstracting, and performing higher mathematical functions, the right hemisphere processes information holistically and synthetically in such activities as spatial perception, rotating designs, looking at pictures, listening to musical sounds, and the use of imagery. The following illustration can be processed in two ways by the hemispheres of the brain:

either by sequencing the letters C-A-T to form the word "cat" or by recognizing the drawing holistically and visuo-spatially as that of a cat.

Split brain studies have shown that the left hemisphere is the speaking hemisphere for 90 percent of the population which is right handed; although the right can understand language, it cannot express it (Gazzaniga, 1970; Geshwind, 1972). As in thinking, the brain functions as an integrated whole, or at one time favoring one hemisphere or the other depending on the nature of the task and the cognitive approach which is employed, i.e., holistic or analytical. There seems to be a continuum of involvement of the hemispheres in any activity ranging from specialization to collaboration.

The Right Hemisphere and Imagery

The right hemisphere, long ignored by educators, is now receiving increased attention because of greater awareness of its potential, function, and contribution to the learning process (Nebes,

1977). One of the major activities occurring in the right hemisphere is imagery. Developmental psychologists regard imagery and imagistic processes as an important step towards the development of symbolic thought in the growing child (Piaget & Inhelder, 1971; Bruner, 1964). Neuroscientific investigation using non-invasive techniques are providing growing evidence for the occurrence of imagistic thinging in conjunction with different types of mental activity such as listening, reading, or preparing to write down one's thoughts.

In research in cognitive processes where recourse to imagery was encouraged or spontaneously utilized as part of reading or listening comprehension activities, there was a significant increase in comprehension and recall (Bower, 1972; Steingart & Glock, 1979; Aaronson, 1980). Different reasons have been offered to explain the value of imagery in recall situations. Steingart & Glock (1980) suggest that the application of an imagery strategy provided subjects with "figural representations" to reinforce the text structure. Aaronson believes that the better recallers used imagery as an "internal cinema" with images floating by much like a slide projector in one's mind. Bower (1972) using historical and empirical data, has come to view imagery as a mnemonic device or as a constructive force in the manipulations of memories. Bower claims that ancient orators exhibited powerful memories because they worked hard at developing an imagistic system based on the use of associations to loci or places. Finally, it is suggested that imagery is effective because it functions by helping to link discrete items of ideas into unified wholes.

Paivio (1971) who had done extensive pioneering work to promote the value of imagery, postulates in his dual coding model that we code information in two ways, verbally and imaginally, and that imagery is more helpful in the recall of concrete information. According to his findings, imagery is the single most important variable in the recall of information because of the way images are stored in the brain; in contrast to verbal information which is sequentially organized and takes a lot of space in the mind, imagistic information is spatially organized and thus can be rapidly retrived as a picture.

Paivio's dual coding model seems to correspond to and be reflected in the hemisphericity of the brain, with the left processing more complex verbal information and the right processing spatial, pictorial, and imagistic information. When imagery is utilized in an effort to comprehend, recall, and describe information, certain mental dynamics are assumed. Not only is the left hemisphere activated in an effort to process information, but the right hemisphere becomes a fully participatory and collaborative partner. Baddeley (1976) refers to the utilization of imaginal and verbal constructs as "mulitdimensional or redundancy coding" because of the use of both hemispheres which result in increasing the chances for recall.

Psychophysiological Approaches

Psychophysiological approaches using the electroencephalogram (EEG), tomography (brain scans such as PETT - position emission transaxial tomography), and dichotomous listening tests are providing greater access into the actual inter-hemispheric processes occurring either collaboratively or individually in the brain while performing different tasks such as reading, writing, speaking, and listening to music. In one experiment, subjects were asked to read, memorize, and then verbally recall a highly technical passage using the EEG to record brain waves in either hemisphere (Ornstein et al., 1977). As predicted, the EEG registered high activation in the left hemisphere particularly when the subject was asked to recall the information, while the right appeared to be idling in the alpha state. When the reading stimulus was changed to an exciting story involving metaphoric language, the right hemisphere showed activation as well because of the probable arousal of imagery in the right hemisphere. (For purposes of economy, the left and right hemisphere will be designated as L/H and R/H). Perhaps that is the clue as to why stories are so much easier to remember; the images that are conjured up in response to the story line and metaphoric language are processed in the R/H while structural and sequential aspects of the story are processed in the L/H culminating in dual coding and processing which is most helpful in learning and recall (Paivio, 1971).

In an attempt to learn more about the composing process, Glassner (1980) used the EEG to measure variation of hemispheric activity during two composing experiences - writing a factual account of a process and writing about a closely felt personal experience. Results of previous research were confirmed when it was shown that factual writing evoked more L/H activity whereas very personal writing that allowed for "the translation of images and feeling into language" reflected more R/H directionality.

In dichotomous listening experiments, subjects are equipped with specially designed earphones that deliver stimuli such as words, numbers, and melodies to each ear simultaneously to measure difference in response and recall. Kimura (1967) reported that when digits and melodies were used as stimuli, there was a left ear superiority for melodies because of the more direct neural pathway to the R/H and a right ear superiority for digits because of the more direct neural pathway to the L/H. When different melodies were piped into each ear, the left ear was superior, again confirming right hemispheric dominance.

Music and Learning

The study of music appreciation has tradionally been part of the school curriculum. It is only recently that reaction to the use of particular background music has been studied as auxiliary to learning and recall. As mentioned previously, the perception of melodies seems to be primarily a R/H activity, although hemispheric responses to listening to music (measured by the EGG) is highly individualistic and dependent on the level of sophistication, training, and handedness. Thus, musically sophisticated subjects tend to be highly analytical and critical in response to the musical stimulus (usually Baroque compositions) and when tested on the EEG, show greater L/H activation. However, musically untrained subjects tend to perceive music experientially and thus show greater R/H directionality (Critchley and Henson (1977).

For the majority of students who are not musically sophisticated, the introduction of music to activate the right hemisphere in conjunction with the left during a learning experience has interesting implications. Lozanov, as reported by Ostrander and Schroeder (1979) has devised a teaching method that purports to increase retention five to fifty times by combining the imparting of information with music and relaxation exercises. Lozanov's rationale is that students learn better when the body is relaxed and the mind is alert. Special music is chosen, generally the largo movement of Baroque composers such as Bach, Vivaldi, Telemann, and Handel because of the slow, constant rhythm and non-distracting melody. It is claimed that exposure to this music induces both a state of relaxation and mental alertness, aptly called, "music-induced relaxation," because the brain waves, rhythm of the body, and the heartbeat tend to synchronize to the tempo of the music. The material to be learned (spoken by a trained instructor) is also broken down into brief segments corresponding to the same rhythm. According to Yellin (1982) this approach has resulted in improvement in learning lists, factual information, and languages. Special education students have also benefited from this approach (Mahler, 1978). In informal use by the author, the teaching/learning mileu seems to be enhanced by the use of special background music. It is helpful for composing, studying, taking exams, or in any situation where "relaxed concentration" is demanded. Thinking processes seem to be energized by listening to this music which tends to be highly relaxing while at the same time encouraging the flow of "creative juices."

Visual Thinking

The major components of thought are considered to be the verbal and the visual (Paivio, 1971; Bower, 1972). Verbal thought has produced our finest philosophers, orators, and writers. Visual thinking has contributed to the various forms of art past and present. Previously there seemed to be a wide divergence between the two forms of thinking, but now as we study the creative processes of some of our greatest scientists, writers, artists, and musicians, we find that during the early moments of creation, there seems to be recourse to non-verbal thought using imagery, meditation, or dreams to solve problems or to unlock ideas frozen in one's unconscious. Picasso is quoted as saying,

> For me, creation first starts by contemplation, and I need long, idle hours of meditation. It is then that I work most. I look at flies, at flowers, at leaves and trees around me. I let my mind drift at ease, just like a boat in the current (McKim 1980, p.44.)

Arnheim (1969) believes that although words are good for different levels of abstraction, they are overrated and that visuals (both graphic and imaginal) are most helpful to the thinking process. He considers verbal thinking to be one-dimensional, lacking the range and depth of visuals which are three dimensional. Visuals are "not only the translation of thought processes, but the very flesh and blood of thinking" (p.134). According to McKim (1980), visual thinking complements abstract thinking

by its own power to "concretize" information. Visualizations can be defined as an interactive triumvirate consisting of "imagery, seeing, and drawing."

How does one represent thought visually? How are thoughts graphically represented? Buzan (1976) argues that man's mind does not work in a linear or list-like manner, yet we impose a linear order for writing and thinking. Rather, he suggests that the brain is multi-dimensional and complex; that man's thinking could be better represented by what he calls, "creative mapping" consisting of various geometric shapes to convey thought processes that might be inter-connected, derivative, and dynamic in pattern relationships.

There are several advantages to techniques that represent ideas graphically and spatially. First, and most important, the ability to transform complex ideas into a pictorial representation demands a high level of understanding of hierarchical and pattern relationships (causal, comparative, sequential). Semantic networking, introduced by Collins and Quillian (1969) requires the use of nodes (concepts) and links to represent relations between concepts. This paper was written using semantic networking as a visual advance organizer (see Figure 1). Secondly, once ideas are spatially represented they could be understood and retrieved more quickly, by closing one's eyes and summoning the image of the design. The saying that "a good picture is worth a thousand words" has been confirmed by several studies that showed that our visual memories (R/H) are extremely strong (Standing, 1973; Hoffman and Senter, 1978) and that the recognition memory for pictures was greater than words or sentences (Shepherd, 1967). When ideas are represented visually as well as verbally, a "redundancy of coding" occurs which is most beneficial to recall (Baddeley, 1976).

Although research dealing with the use of graphic visualizers to aid recall is meagre, the number of studies seems to be increasing because of the promising results that have been obtained. In one study, community college students showed increased attention to structure after receiving instruction in the use of flow charts (Geva, 1983). Dansereau et al., (1979) formulated an interactive learning strategy system that incorporated activities such as forming mental pictures of the information, followed by transforming the information into "node link maps or networks," with clear gains in performance. Armbruster and Anderson (1980) designed a unique and broad visualization program called "idea mapping" in which the meaning of important relationships in the text were represented by rectangular "frames" using a specially designed symbolic language to represent ideas, patterns of thinking, and hierarchical organization with good improvement in retention.

After reviewing the other systems and finding them too complex and not suitable for extensive expository information, the author devised a system called study mapping that combines elements of both and yet is relatively easy to teach in a developmental reading course. The following is an example of linear outline notes taken from a text on sociology on the subject of altruism which is categorized into three types.

NOTES FOR 3 TYPES OF ALTRUISM

A. **The Normative Explanation** - rules of appropriate behavior
   1. Norm of Social Responsibility - people should help others who need help because it's the right thing to do.
      ex. a person will be more likely to be helpful if they see another person helping someone else.
   2. Norm of Reciprocity - do unto others as others do unto you.
      ex. help those who help us.

B. **The Cost Analysis Approach** - helping behavior is most likely to occur when the rewards for helping outweigh the costs.
   ex. help is more likely to occur if it is not perceived to be dangerous to the person.

C. **The Mood Approach** - moods and feelings influence the extent to which people are willing to help others.
   ex. someone in a good mood is more likely to help than someone in a bad mood.

Figure 2 is a non-linear study map that represents the same information. As can be observed in the key that is provided, headings and explanations and examples all receive distinctive shapes for ease

of registering in the mind's eye for studying. Study maps conceptualize the information to be learned in a holistic format and are remembered in that fashion. In contrast, notes are typically strung out in a linear left to right manner, thus information tends to be remembered in that mode and to take a lot of space in the mind. As mentioned previously, our visual memories are stronger than our verbal memories, thus a combination of both forms on informational modes (verbal and visual) generate greater interhemispheric coding and processing leading to greater recall.

Summary

As a result of advances in medical technology which are providing a "window on the brain," we are learning more about the potential, function, and importance of the right hemisphere in the learning process. The right hemisphere is responsible for processing information holistically in such activities as spatial perception, looking at pictures, listening to musical sounds, and the use of imagery. Research studies have found that the use of both hemispheres in certain learning activities (dual coding) increases the chances for recall. Consequently, when imagery (which is right hemispheric) is utilized in conjunction with listening, reading, or composing (left hemispheric), hemispheric cooperation is activated leading to better recall. Graphic visualizations are representations of knowledge that is pictorialized. The use of visualizations with notetaking are examples of elaborative activities which also strengthen recall because of the increase in coding strategies. Finally, the use of special music during a learning sequence is felicitous, again because of the activation of the right hemisphere resulting in inter-hemispheric cooperation and the inducement of a state of "relaxed concentration."

See Next 2 Pages for Figures

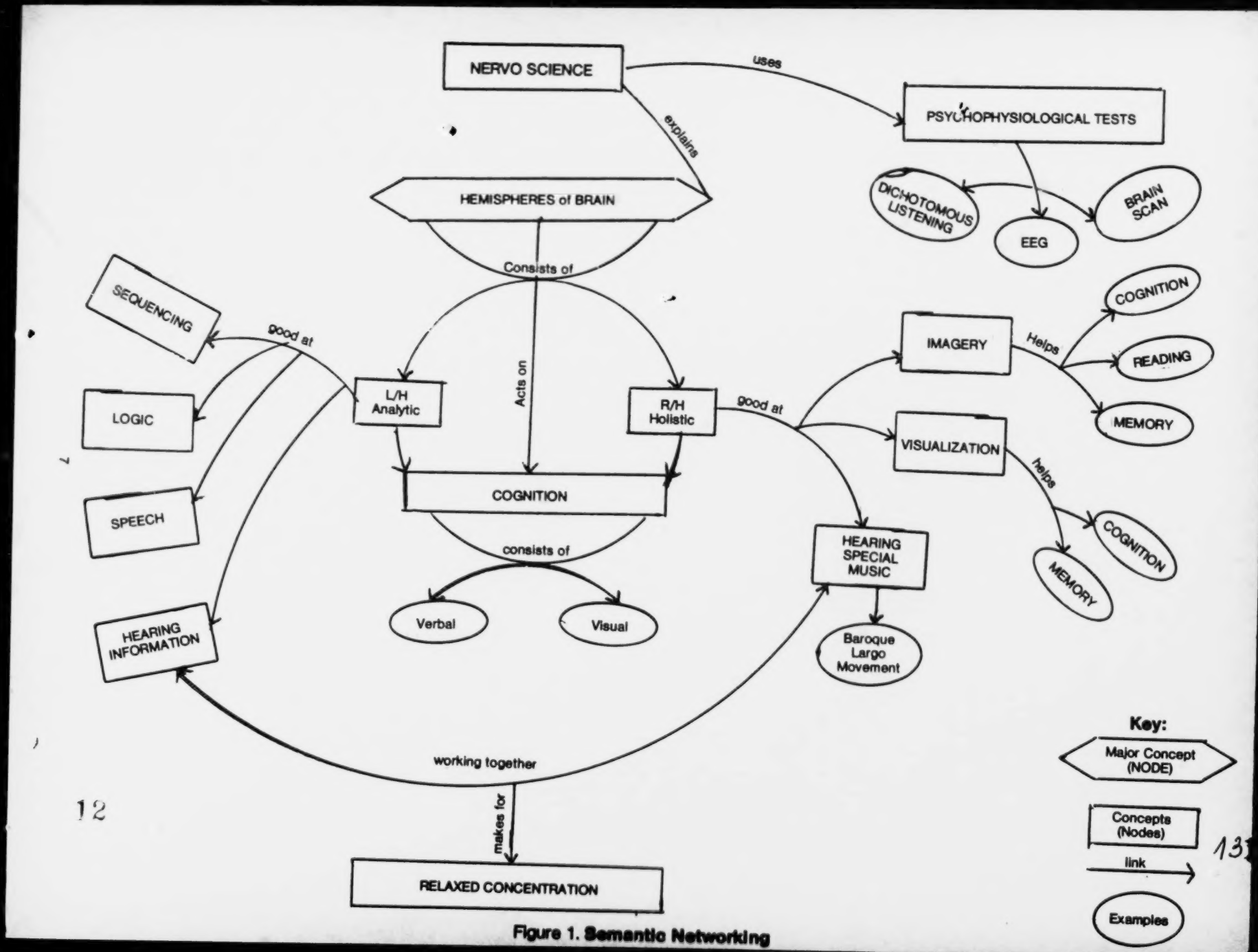
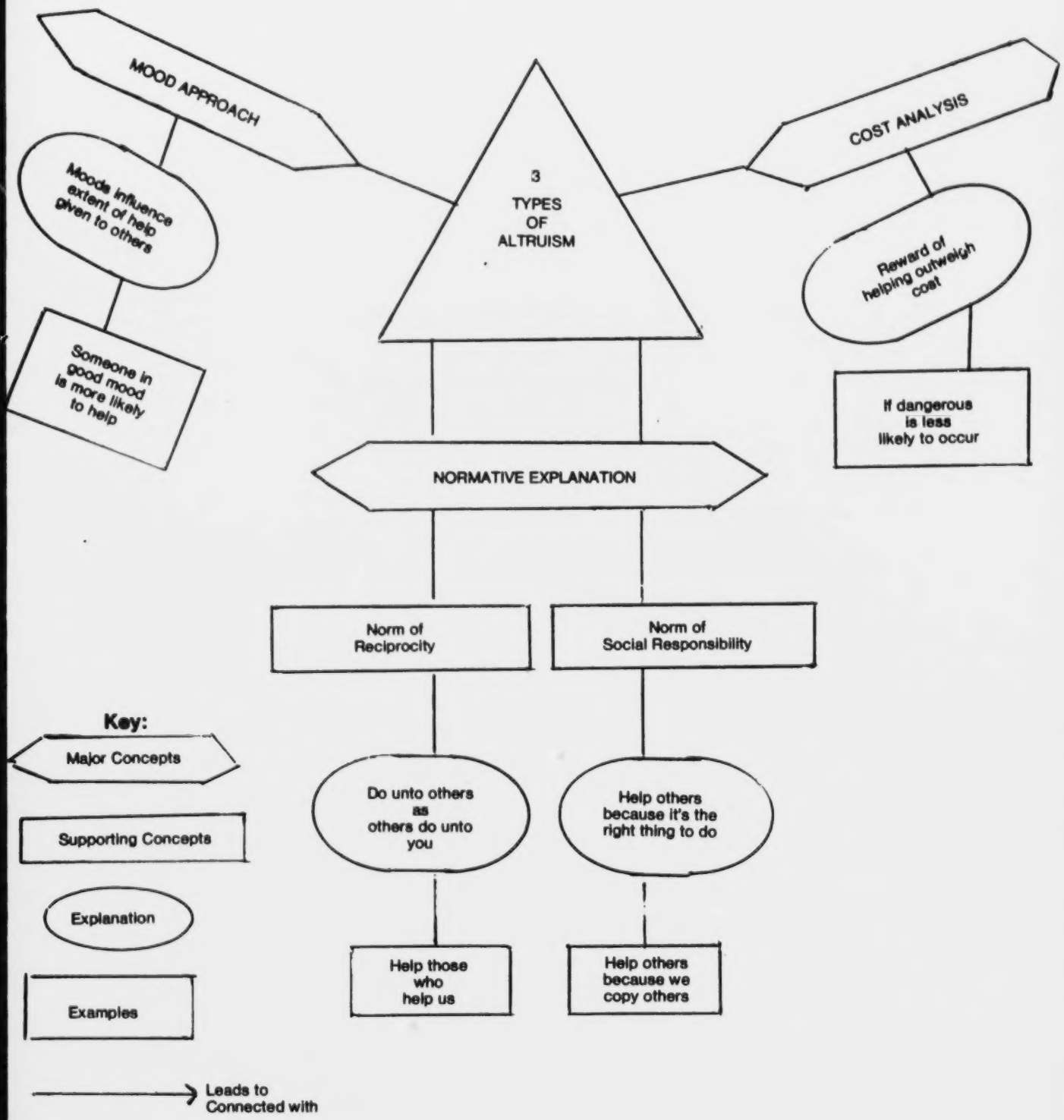


Figure 1. Semantic Networking

Figure 2.
Study Map: Categories and Examples


MOOD APPROACH
Moods influence extent of help given to others
Someone in good mood is more likely to help
3 TYPES OF ALTRUISM
COST ANALYSIS
Reward of helping outweigh cost
If dangerous is less likely to occur
NORMATIVE EXPLANATION
Norm of Reciprocity
Norm of Social Responsibility
Do unto others as others do unto you
Help others because it's the right thing to do
Help those who help us
Help others because we copy others
Key:
Major Concepts
Supporting Concepts
Explanation
Examples
Leads to
Connected with

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THE IMPACT OF PHYSICALLY DISABLED STUDENTS ON CURRICULUM

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The focus of this paper is physically disabled students and how they affect and are affected by the "total" curriculum. A distinction is drawn between the physically disabled and those with cognitive disabilities.Thus, college students with learning disabilities as their single disability are not included in this presentation.

The Carnegie Foundation's commentary entitled the *Missions of the College Curriculum* provides three definitions which together describe the "total" curriculum as used in this paper. The first definition is for *curriculum.* It is "the body of courses that present the knowledge, principles, values, and skills that are intended consequences of the formal education offered by a college." (1) The second is *extra curriculum* defined as "composed of learning experiences provided informally through recreational, social, and cultural activities sponsored by colleges or by college-related organizations." (2) And third is the *hidden curriculum* which consists "of learning that is informally and sometimes inadvertently acquired by students in interactions with follow students and faculty members and inferred from the rules and traditions of the institution." (3)

Because an inclusive definition of who is disabled or what is a disability is not possible, (4) the exact numbers of individuals with disabilities are difficult to calculate. The total number of minorities defined by race, sex, or ethnic origin can be calculated more easily than the physically disabled because the minorities are congenital. In 1980 one report listed the figure for "persons with activity limitations caused by chronic physical or mental impairment" as over 37 million, or about 17% of the total United States population. (5) This figure is not explicit for physical disabilities, but it is clear that this number is in the many millions. Also, since physical disabilities can be acquired at any age, the total can increase with time. (6)

For this paper, a physically disabled person can be described as having a stabilized physiological condition which substantially limits one or more of life's major activities. Deafness, blindness, paralysis, rheumatoid arthritis, dwarfism, cerebral palsy, congenital bone imperfection, epilepsy, hemophilia, multiple sclerosis, and amputation are some of the conditions that can disable an individual. The term physically disabled is interchangeable with handicapped by some people, but philosophically, handicapped is not an acceptable term by others with one of these conditions.

In recent years, college educators have become increasingly concerned about serving the disabled population. The reasons might be many, but certainly open admission policies, declining enrollments, forceful advocacy, and lifelong learning concepts all contributed to this concern. Most of this concern, no matter how sincere now, may have been stimulated originally by federal government legislation. The major piece of legislation directly affecting colleges is the Rehabilitation Act of 1973. This Act "excludes the use of handicapping conditions as a basis for negative decisions in schooling..." (7) Part of the specific section, 504, relating to this issue reads:

> No otherwise qualified handicapped individual in the United States...shall solely by reason of his handicap be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. (Rehabilitation Act of 1973, 29 U.S.C. 794) (8)

A recent decision by the United States Supreme Court in the Grove City College case confuses the issue of accessibility at present. The ruling by the Court narrowed the definition of compliance by stating that sex discrimination in education applies only to programs that receive direct government aid. Since Grove City College accepted federal funds only through Pell Grants to students, the Court ruled only the student-aid program was covered by the anti-discrimination clause. Previously, the interpretation of this federal anti-discrimination clause, which includes the disabled, covered all programs on a campus. However, most programs still might be required to follow anti-discrimination guidelines if they receive college work-study funds since these funds go to most departments. Also,

federal research, special projects, or vocational funds are accepted in a majority of colleges and have the effect of reaching most programs. Thus, this new court ruling along with the legislation of some states, still makes accessibility to higher education a guaranteed right for disabled students in most colleges. If advocacy groups for the disabled mobilize along with other civil rights organizations, new federal legislation to apply the anit-discrimination statutes to the entire college campus may well pass in this Congressional session.

Regardless of the recent Court ruling, legislation has forced a trend toward inclusion; disabled students are being mainstreamed in ever increasing numbers. No longer are disabled individuals accepting environments which segregate them if they feel a less restrictive and integrated environment is more beneficial. The past ten years have been the most active time in the United States' history for the assertion of the rights of disabled people. Elementary and secondary schools felt the pressure of this activity and reduced the barriers, and now disabled students are graduating from high schools and expecting colleges to meet their needs. To meet these needs, many colleges are establishing programs to provide support for disabled students. At the Rochester Institute of Technology (RIT), this program is housed in the Office of Special Services. With a grant from the local Easter Seal Society, this office published a faculty handbook entitled *Our Common Vision: Helping Disabled Students Succeed at RIT.*

The handbook provides a list of ten implications drawn from Section 504 of the Rehabilitation Act of 1973. This list contains elements which directly influence classroom situations, and therefore, directly and indirectly, curriculum. The ten points are as follows:

1. There can be no limitations on the number of disabled students admitted to the Institute.

2. Information relating to disabling conditions can only be obtained after admission for the purpose of making accommodation.

3. RIT must assure accessibility of programs and activities to disabled students.

4. Class locations may have to be rescheduled to permit access for students with mobility impairments.

5. Tests must not be discriminatory against disabled students but instead be selected and administered so that test results are indicative of the student's ability and not his/her disability.

6. Auxiliary aids must be permitted in the classroom when they are required to insure the full participation of the disabled student. These aids may include tape recorders, steno-masks, talking calculators, etc.

7. RIT is expected to make reasonable modifications in academic requirements while preserving the integrity of those requirements to insure that the material/activity is accessible to the disabled. Such modifications may include longer time for completing an exam, extension of time for finishing up degree requirements, adaptation of the manner in which specific courses are conducted, etc.

8. Disabled students must be offered physical education and not unnecessarily be segregated in these classes.

9. RIT may not exclude a student from any course or any course of study solely on the basis of a disability.

10. It is discriminatory to counsel disabled students toward more restrictive careers than non-disabled students.

These ten points provide an indication that disabled students impact upon curriculum. Specific details can vary almost as much as the number of disabled students in higher education. (9) However, the list serves to provoke observations which provide some background information and examples as

well as an understanding of the interaction of disabled students and the total curriculum.

If the aspect of the total curriculum called the hidden curriculum is first addressed, issues concerning disabled students appear. Non-disabled students benefit from the hidden curriculum because it is composed of the college's rules and traditions, both spoken and unspoken, which they and those like them developed through their interactions. The learning that is acquired by following these rules and traditions and the information gained informally or inadvertently creates a formidable body of knowledge. Since disabilities, in general, are isolating, a disabled student may not be able to acquire this same body of knowledge at the same pace as the non-disabled student.

Information shared easily among the non-disabled students frequently does not reach the disabled student, reaches him late, or in an altered form. This information or knowledge of the college's rules and traditions may be required for success in the classroom. For example, initially, interaction with disabled students may be difficult, uncomfortalbe, or, even threatening to those unfamiliar with disabling conditions. In the first days and weeks of a term for a college freshman, opinions and attitudes are shared and created, and information about courses, professors, and accepted behaviors is informally disseminated among students. These can be critical to the successful acclimation of the new students, yet disabled students may not be included or only partially included in this dissemination. The traditions of the classroom suggest that a student sitting front and center everyday is eager to learn, but most classrooms will not accommodate a disabled student who uses a wheelchair or an interpreter in this favored position. Stopping by to see the professor in his office makes a positive impression and may well provide important support later in the term. This casual visitation may be impossible for the disabled student because of architectural barriers, distance, or communication difficulties.

Much of the knowledge of drugs, sex, and appropriate classroom behavior is developed through the hidden curriculum. If a student exhibits mannerisms not deemed appropriate for the classroom, such as tardiness, interruption, or responding after the point has been made, his classmates develop a bias that surfaces when groups are formed for projects or students are asked to work in teams. Students without the general level of knowledge about sex and drugs may miss inferences or references by other students and by faculty members. This lack of knowledge can create situations where a student fails to understand seemingly clear text information, especially in plays, poetry, novels, and short stories, or misunderstands references in speeches, motion pictures, and television. Most students develop their knowledge in these areas outside of the classroom, and lack of this knowledge can cause academic missteps. Curricula need to be attuned to the possible lack of development in this area for some students. Finally, the hidden curriculum works at colleges because people want it to work. their attitudes are positive. They want to interact with each other and to share information. Attitudinal barriers may be the disabled students greatest enemy. People's attitudes toward disabled students, in most cases, are not the same as with individuals "of their own kind." This prevents the hidden curriculum from working to the same extent for disabled students as for non-disabled students. If all students are to be treated equally, a modified set of assumptions upon which a curriculum is built may be required.

Unlike the hidden curriculum, the extra-curriculum has sponsored learning activities as its main ingredient. Although sometimes informal in approach, these recreational, social, and cultural activities are sponsored by the college or college-related organizations. The exact benefits derived by students from these activities depends on a number of variables, but the fact that the activities are beneficial is accepted. Faculty typically design curricula which allow and encourage students to utilize these benefits. Discussions in class may refer to motion pictures, television programs, or music, yet the deaf, blind, or mobility-impaired students may not have had access to one or all of these. Speakers appear on campus and provide information which the students use in the classroom. Disabled students cannot always take advantage of such opportunities. Museums, galleries, theatres, and arenas might have barriers which prevent the disabled student from exploring areas of interest and applying knowledge gained from these resources. Social activities are part of the extra-curriculum when sponsored by the college or a related group. These activities might have so many problems built into them that the disabled student cannot participate. Many of these activities happen in inaccessible rooms or use accessible rooms but have no accessible restrooms nearby. Other conditions such as excessive smoke, limited lighting, or overcrowding reduce the opportunities to enjoy, or even participate in social occasions for some disabled students. A student's confidence or

feeling of competence in the classroom can be lessened if his/her social skills have not been developed. Learning becomes more difficult for this type of individual and affects the success of classroom interaction.

The issues raised in the area of extra-curriculum and hidden curriculum reappear, along with additional issues, in the curriculum, again defined as "the body of courses that present the knowledge, principles, values, and skills that are intended consequences of the formal education offered by the college."(10) As indicated by the list of implications for RIT because of Section 504, a disabled student can have a direct and immediate impact on the curriculum when he or she registers for a course. When a disabled student enrolls in a course, the instructor needs to discuss with the student the requirements and expectations of the course. Together the instructor and the student can make decisions about the adaptations, if any, that are required. In colleges where disabled students are enrolled regularly and there are support service personnel, they also should be involved in the decisions.

If instructors know disabled students will be present in a class, there are some advance preparations that are beneficial. For example, before the term begins, texts or special readings can be recorded or brailled, captions prepared for video tapes, films or slides and transcripts prepared of required documentaries or prerecorded television programs; the class can be reassigned to an accessible space (if it is not already accessible); or a course outline and list of readings provided to the support personnel. These preparations are helpful to disabled students, depending upon their disability, but most of these preparations require the faculty member to plan thoroughly prior to the beginning of the term. Additionally, in some instances, an instructor puts the disabled student at a disadvantage if he or she decides to modify the course in the middle of the term. An instructor may decide to add a new text, selected readings, or a film at the last minute. This addition creates a burden on some disabled students and is not a shared burden by the non-disabled student. Clearly, the disabled student's presence, in certain situations, creates a need for the curriculum to be well planned prior to the start of the term. On the surface this pre-planning may seem limiting to some instructors, but there are exceptionally few course requirements, even last minute additions, that *cannot* be modified to accommodate the needs of the disabled student.

At this point, it is important to note that these modifications do not make the work easier. The curriculum must maintain its integrity. Modifications for disabled students are legitimate alternatives that offer them an equal opportunity to succeed. No one is served by reducing the expectations. Modifications for individual students are based on the specific need of the disabled student. Depending on the disability, homework, testing, group projects, oral presentations, field trips, visual material, assigned readings, seating arrangements, and other factors may need to be modified. The goals of the curriculum need not be changed, but the method to reach the goals may need modification. These modifications need not be negative. Almost without exception, curriculum can be improved for all students by the modifications. The impact on the curriculum by a disabled student can be very positive when the instructor faces the changes as a positive new challenge to reach a special group of students. Physical Education, Theatre, Foreign Languages, Lab Sciences, and every other academic area have felt the impact of disabled students upon their curricula, and these areas at different colleges have found advantageous modifications.

One issue that is not as evident as that of physical accommodation is "response problems." Some students with disabilities have "response problems," which means they cannot react or respond at the same time as the non-disabled student. A deaf student cannot receive the information from the interpreter at the exact time when the instructor makes a point, and then the deaf student misses participating in the immediate class response to the point. A blind student may have the same problem if the point depends on a visual reference or image. In both cases and with people with certain other disabilities, such as an inability to raise their hands or to speak fluently, students may miss responding at the appropriate time to the instructor or in a classroom and thus feel alienated. This, too, creates a need for modification.

Finally, in one stituation the faculty at the National Technical Institute for the Deaf (NTID) at the Rochester Institute of Technology (RIT) is moving to provide a new curriculum in general education because of the unique needs of deaf learners. Deaf students traditionally have English language difficulty. The development of sufficient English skills to pass the English composition course and other courses where writing is a major component has been a barrier for deaf students in higher

education. Therefore, many students with sophisticated technical skills and a sound knowledge of their technical disciplines could not graduate with college degrees, either at the Associate of Applied Science (A.A.S.) or Bachelor of Science (B.S.) level, which required English language proficiency standardized for attainment abilities of hearing students.

The inability of a majority of the deaf students to meet the English language proficiency level required for an A.A.S. degree causes many of these students to drop out of college prior to developing their discipline knowledge to the advanced level necessary for optimal employment. As a result, the faculty of NTID at RIT has proposed a new curriculum in the Genreal Education area that will utilize the language level the student possesses and attempt to build on that base. This recognizes that deaf students' English language level may never reach the proficiency level required to pass the regular English composition course which precludes them from attaining an A.A.S. or B.S. degree. Instead, a new degree for NTID at RIT, the Associate of Occupational Science (A.O.S.) is proposed. The new general education curriculum in the A.O.S. program addresses the personal, social, and language needs of the deaf college student in a rigorous manner and the discipline requirements remain the same as for a traditional A.A.S. degree. This unusual approach has not made anyone sacrifice standards. Instead, it has created a clear set of expectations which are rigorous for the students, but guided by the knowledge that all students are not alike and that the curriculum needs to reflect that fact. The deaf students graduating with this new degree will not be thought of as having the same skills and knowledge as the students graduating with the A.A.S. degree from RIT, but they will have well defined skills and knowledge that prepare them for specific careers. This situation is the extreme in the disabled students' impact upon the curriculum, but as colleges become more oriented to the needs and desires of the students, this extreme may not be uncommon.

Summary

Disabled individuals are students with different, but no less legitimate, needs. Initially, the impact of the disabled student on the curriculum is unsettling because faculty members mistakingly believe they lack the skill or knowledge to meet the needs of these students. But, as the experts in their disciplines, the faculty members can modify the curriculum without sacrificing quality. As more and more disabled students appear in college classrooms, faculty members will make accommodations to the curriculum with newfound ease because they, as teachers, want all people to learn.

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(3) Ibid.

(4) In some cases, people with certain types of disabilities do not consider themselves disabled and thus frequently are not included in some estimates; and alcoholism, severe heart conditions or other "non-apparent" conditions are not classified as disabilities by some estimators.

(5) Alfred H. Katz and Martin Knute, *A Handbook of Service for the Handicapped,* Greenwood Press, Westport, CT, p. 41.

(6) Wm. P. McLoughlin, "Helping the Physically Handicapped in Higher Education," *Journal of College Student Personnel,* May 1982, p. 241.

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PREDICTING ACHIEVEMENT USING SELECTED INTELLIGENCE FACTORS IN AN URBAN COMMUNITY COLLEGE INTRODUCTORY ACCOUNTING COURSE

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Historically, educators have used evaluative instruments to predict students' potential for success in their courses. However, the results produced by traditional prognostic aptitude tests have only been moderately useful in guiding students. The problem of prediction is particularly acute in urban community colleges where most of the students are from minority socio-economic groups. These students generally do poorly on standardized tests. What may be needed to remedy this situation is an alternative test model which not only measures specific aptitudes but also includes measurements of general congitive abilities. This type of predictive test could be particularly useful in identifying potentially successful students that traditional aptitude tests are missing. Ideally, it would identify those students who are poor in special skills but have good general ability.

Statement of the Problem

The general purpose of this study was to identify which of selected general cognitive abilities and specific measures of accounting aptitude are involved in the prediction of student acheivement in an introductory accounting course in an urban community college.

Specifically, the study was designed to investigate the following two research questions:

1. Which subset among the selected Structure-of-Intellect test scores and accounting aptitude test scores predict achievement best in introductory accounting?
2. Are there different subsets of variables involved in predicting such achievement for males and females?

Scope of the Study

The research was conducted at Bronx Community College, Bronx, New York. The school is part of the City University of New York and serves a population consisting primarily of New York City residents. The city is an urban community containing members of all socio-economic classes and all ethnic backgrounds. However, Bronx Community College tends to draw a majority of its students from the lower and middle socio-economic groups that have large concentrations of black and Spanish speaking people. This should be taken into consideration when generalizing to other populations.

Definition of Terms

The technical terms used in this study are defined as follows:

Accounting Aptitude - is operationally defined as the scores achieved on the American Institute of Certified Public Accountants (AICPA) Orientation Test.

Achievement - is operationally defined as the score achieved on a post-test based on the content of an introductory accounting course. The post-test is the final examination in the course and served as the criterion variable in this study.

General Cognitive Abilities - were measured by tests developed by J.P. Guilford to measure cognitive abilities contained in his theory of human intelligence which hypothesized 120 mental abilities into a single system. Each ability is considered to be a unique ability in that it is needed for satisfactory performance on certain types of tests or tasks. (Structure-of-Intellect Model).

The Structure-of-Intellect (SI) - is a theory of intelligence developed by J.P. Guilford (1967) and his associates. The SI model is based on the theory that human intelligence is an aggregate of many abilities. Through factor analysis of various tests and tasks, Guilford and his associated developed the SI model as shown in Figure 1. It is a three dimensional model in whcih each cell represents a

unique ability containing anoperations component, a product component, and a content component. The model has 120 predicted cells or intellectual abilities each of which is indentified by a three letter code called a trigram. The first letter of the trigram is the initial letter of its operations, the second letter represents the content component and the third letter represents the product component. Therefore, "MMR" is the trigram designation for Memory for Semantic Relations and "ESU" stands for Evaluation of Symbolic Units.

Test Instruments

Several instruments were used to collect data for the study and are described below.

1. Selection of the Structure-of-Intellect Tests

The SI tests used in the study were selected on the basis of a task analysis of the activities students would be expected to perform in an introductory accounting course. The tasks were matched with their corresponding SI ability factors and then the SI tests which measure these factors were selected for use in the study.

The following SI abilities were used in this study:
MMR - Memory for Semantic Relations
MSI - Memory for Symbolic Implications
NMC - Convergent Production of Semantic Classes
NSS - Convergent Production of Symbolic Systems
NMS - Convergent Production of Semantic Systems
NMI - Convergent Production of Semantic Implications
ESU - Evaluation of Symbolic Units

2. A.I.C.P.A. Orientation Test

This test was created by the American Institute of Certified Public Accountants and The Psychological Corporation and is considered to be essentially a measure of intelligence slanted toward business situations. It yields a verbal aptitude score (AICPA-Verbal), a quantitive aptitude score (AICPA-Quantitative), and a total score (AICPA-Total). This test served as a pretest in the study.

3. Accounting Achelvement Test

The post-test was the final examination in the course and served as the measure of achievement. Part one of the examination was a worksheet and part two was a series of six problems. A standardized grading pattern was developed to evaluate the results.

Findings

The results (see Table 1) for the total sample, the sample of males, and the sample of females show that the AICPA Quantatative test was the best of the predictor variables used in the study.

The SI ability factor NMC (Convergent Production of Semantic Classes) appeared as a significant predictor for the total sample and the sample of females. It was the only SI ability factor to appear in more than one sample. This factor reflects the ability of the subject to classify information. Students in an introductory accounting course are taught to analyze transactions by classifying accounts into groups such as assets, liabilities, owners equity, revenue and expenses. Considering the large number of transactions accounting students must analyze, it is not surprising to see this factor as a significant predictor. A similar type of classification process takes place when a student constructs financial statements.

In the sample of females, the factor NMS (Convergent Production of Semantic Systems) as measured by the Sentence Order test was the second significant SI predictor for the group. This factor (NMS) measures the ability of a subject to order or plan a sequence of steps so as to complete a complex task. A student in an introductory accounting course is taught to proceed sequentially through a complete accounting cycle starting with the analysis of transactions and ending with the preparation of financial statements and a post-closing trial balance. Apparently the ability to order information helps the student perceive the complex interrelated components (systems) of accounting.

In the male sample, the only SI predictor variable which made a significant contribution to the multiple R was MSI (Memory for Symbolic Implications) as measured by the subtraction/multiplica-

tion test for numerical facility. It would seem that the importance of the MSI ability could be due to the large number of numerical operations required in the course.

The data reveals that of the three SI ability factors (NMC, NMS and MSI) making significant contributions to the multiple R's, two involved convergent productive thinking combined with semantic content. This is not too unusual in that the activities of an introductory accounting course are highly structured with little or no freedom in the production of information. The accounting student is expected to manipulate the information given and produce the one correct answer. The appearance of semantic content would be due to the amount of emphasis in the course on textbook and instructor-oriented learning. Instructions and questions asked by the textbook and the instructor focus the attention of the students on the production of correct answers. This verbal communication of ideas (semantic content) in an introductory accounting course plays an important role in the learning process.

Conclusions

This research indicates that selected general cognitive abilities and specific measures of accounting aptitude can be used to predict student achievement in an introductory accounting course. It also indicates that the multiple regression technique and a careful selection of tests based on task analysis can be used to develop predictive batteries in accounting. Through extensive use of multiple regression analysis, it is possible to construct a predictive battery which is easy to administer.

In the study, the AICPA-Orientation test was used on a group of non-tranditional students. In light of the fact that the subjects came from an inner-city community college, the AICPA test appears to possess predictive ability when used with academically deprived students. On the other hand, it was possible to create a battery of SI tests possessing almost the same predictive effectiveness as the AICPA test but capable of being administered in a much shorter period of time. This research indicates that the aptitudes and cognitive abilities of inner-city students are identifiable and measurable by both the AICPA and the SI battery.

In a practical situation, when a teacher wants to predict achievement in an introductory accounting course, it would be administratively easier to use the SI battery of three tests. Although this battery does not maximize predictive ability, the increase in the prediction of explained variance by using some other battery is probably not worth the additional time and cost incurred.

Implications and Recommendations for Accounting Educators

This research was a first step in using Guilford's Structure-of-Intellect model to predict academic achievement in accounting. Since only seven of the SI ability factors were used in the study, it appears likely that other factors would also contribute to the prediction of achievement. Additional ability factors should be selected on the basis of a task analysis and tested with introductory accounting students. Future research in introductory accounting should also include students from non inner-city community colleges as well as four-year colleges to see if comparable results are obtained.

The results suggest that the SI ability factors may be useful in predicting achievement in advanced accounting courses such as financial accounting, taxation and auditing. If this were so, it would provide the basis for a coordinated curriculum in which needed cognitive abilities could be improved prior to a student's entry into a course. A logical beginning for this type of remedial training would be prior to entry into introductory accounting.

The SI battery developed in this research could be used to identify students deficient in specific congitive abilities needed for success in the introductory accounting course. The treatment might involve remedial training designed to bring those students up to the level of intellectual achievement needed to successfully complete the course. This would be a somewhat unconventional approach in that the training would not be in specific accounting activities but would involve exercises designed to improve selected intellectual abilities. The data indicated that for the total group, the student's ability to think convergently using semantic information and the development of the numerical facility ability are important in performing accounting activities. Specific training to enhance these abilities may be worthwhile.

Since the quantitative portion of the AICPA-Orientation test plays such an important role in the multiple regression analysis, it would be worthwhile to find out what SI abilities are being utilized in this instrument.

Since the results indicate that certain cognitive abilities are needed for success in introductory accounting, it may be that a student's exposure to the course could improve these cognitive abilities. It may also be that students who have higher scores on selected SI tests, at the end of the course, are those who receive higher grades in the course. Such results would place even greater emphasis on the need for cognitive ability training.

The following are areas where further research may prove to be beneficial:

1. Develop and teach topics in convergent productive thinking to a group of students to determine if this assists them in their understanding of accounting material which is presumed to require convergent thinking.
2. Carry out similar research projects in introductory accounting courses testing for other SI ability factors not yet accounted for.
3. Determine if similar SI abilities are related to student achievement in advanced accounting courses.
4. Do a follow-up study after the teaching of an introductory accounting course to determine if accounting activities enhance convergent productive thinking as well as other SI abilities.
5. Determine if similar SI abilities are related to student achievement in non inner-city community college and four-year college introductory accounting courses.
6. Determine what SI abilities are being utilized by the quantitative portion of the AICPA Orientation test.

See Following Pages for Figure 1 and Table I

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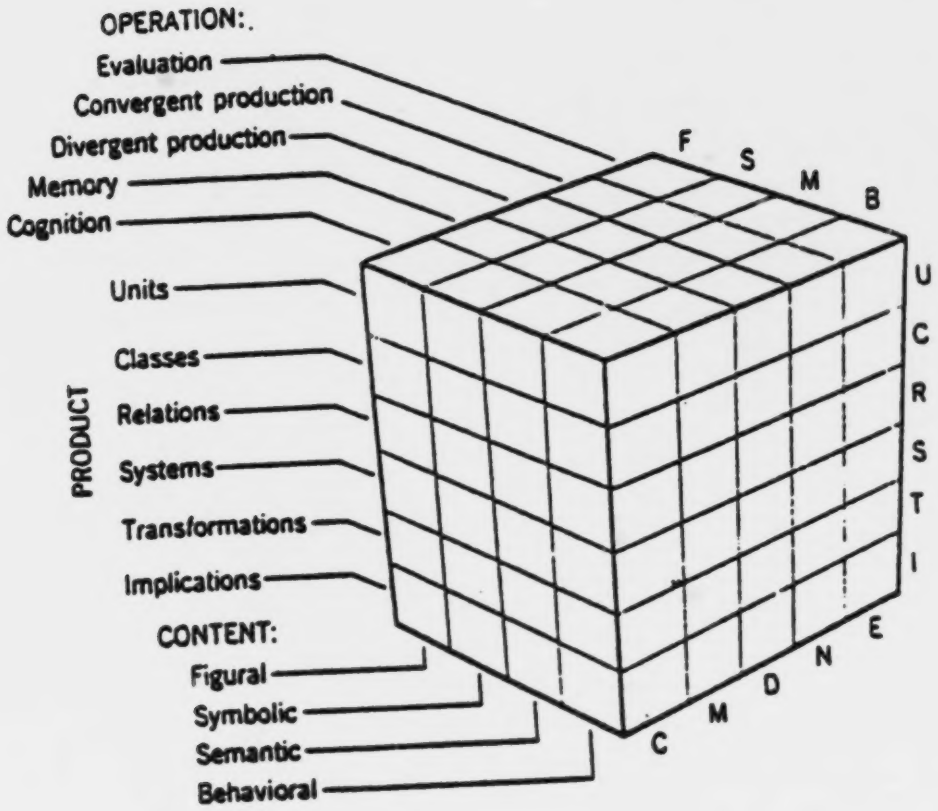

Figure 1. **The Structure-of-Intellect Model**
(Guilford, 1967)

Table I

Results of Multiple Regression Analysis on Post-test for Males, Females and Total Sample

Group	Step	Variable	Mul. R.	R^2	Sig. of increase[a]
Total	1	AICPA-Quantitative	.477	.228	.001
N=157	2	NMC-Word Grouping	.514	.264	.005
Males	1	AICPA-Quantitative	.540	.292	.001
N=62	2	MSI-Numerical Facility (Sub/Mult.)	.597	.357	.025
Females	1	AICPA-Quantitative	.422	.178	.001
N=95	2	NMC-Word Grouping	.483	.234	.005
	3	NMS-Sentence Order	.516	.266	.05

[a]The accepted Type I error is = .05.

THE CRITICAL THINKING DIMENSION OF JOHN DEWEY AND ITS IMPACT ON TEACHING

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Why critical thinking? Because, although its importance as an educational objective is not in doubt, its meaning, place in the curriculum, and its pedogogy continue to confound educators. We can't seem to agree on what critical thinking is, in which subject areas it should be taught, and how it should be taught.

Why John Dewey? Because he is recognized as one of the greatest American philosophers of the twentieth century (2); his writings address the connection between thinking and teaching; and, despite the massive amount of research and writing done on Dewey (which, incidentally, is increasing as he is discovered anew in larger numbers by succeeding generations), his educational works have been seldom understood and applied and his theory needs to be, "far more systematically understood and better interpreted than it is today" (3).

Since there is a need for an integrated approach to teaching for critical thinking, and since Dewey's works represent such an integration, analysis of his ideas should prove fruitful. This study is a thematic content analysis (4) (5) of *Dewey's Democracy and Education* (6). This work was selected because it represents a fair, although incomplete, view of Dewey's educational philosophy. The themes analyzed are subject matter, thinking, teaching, and learning. According to Getzels (7) and Taba (8), these four are the operative themes that should be addressed in any attempt to teach for critical thinking.

Using a research technique called contingency analysis (9), the work was content analyzed for statements related to the four themes of subject matter, thinking, teaching, and learning. The statements were recorded as they were identified and then grouped by themes and organized within themes. This resulted in a concentrated distillation and organization of Dewey's thoughts on the four themes; a concentration and organization that is not available in the original work and one which helps eliminate the obtuseness in writing style that is associated with many of Dewey's works.

Here then is a connected narrative of Dewey's ideas regarding subject matter, thinking, teaching, and learning as they appear in *Democracy and Education*.

Subject Matter

The traditional notions that subject matter is a given body of knowledge, the material of a lesson plan or of a textbook, or that subject matter comprises the facts and ideas associated with a specific course of study are not consistent with Dewey's philosophy. According to Dewey, no subject matter should be received as possessing inherent value but only value in relation to how it helps promote understanding of the meaning implied in present experience, "subject matter...consists of the facts observed, recalled, read, and talked about, and the ideas suggested in the course of a development of a situation having a purpose", (p. 180). Such situations having purposes are to be created by teachers. In this manner subject matter is used in connection with problem solving; it serves a purpose regarding future learning.

Organized traditional subject matter represents wisdom to date, it is not inviolate. It is subject to change. Subject matter does not possess inherent value. No subject can lay claim to developing specific intellectual abilities and none is restricted in its ability to evoke a social context or assist development of reflective thought. For example, Dewey cites industrial history as providing an opportunity to consider the advances made in discovering new knowledge through use of the scientific method. In this manner subject matter is placed in context. Simply knowing is of no real value. The real meaning of content, "is what the element accomplishes in the system of which it is a member", (p. 233). Subject matter cannot be disassociated from doing.

Critical Thinking

The essence of critical thinking is the making of connections. It is, "directed movement of subject matter to a completing issue", (p. 165). Every conception and statement should follow from and lead to others.

The materials of thinking are facts, events, relations, and actions associated with subject matter in the pursuit of solutions to problems. But emphasizing facts (knowledge) can swamp thinking. It hinders practice in selecting what is appropriate. Logical order cannot be received from another as knowledge, it must be gained through experimental learning as is present in the scientific method.

Ciritical thinking can be encouraged through establishing purposeful or problematical situations and through cultivating an open and playful attitude. It can be original if it is, "a projection of considerations which have not been previously apprended", (p. 159).

Teaching

The aims of teaching are to free the learner's intellectual capacities, to eliminate dogmatism, and to furnish conditions for reflection. Aims should be used by teachers to anticipate and choose learning situations.

The teacher is responsible for acquiring a deep understanding of subject matter to enable concentration on student responses. The teacher must select, formulate, and organize subject matter to assist reflective thinking. The context should be based on active occupations and a social context should be maintained. The teacher must develop a personal viewpoint toward the subject matter otherwise the ability to grow - through consideration of another's viewpoint - is foreclosed.

Failure to recognize that the subject matter of the teacher cannot be the subject matter of the learner (i.e. the purposes and problems of teachers and learners are different) leads to teaching methods - and, therefore, thinking patterns - that are beyond the grasp of the beginner. The teacher comes to the classroom with (ideally) an interest in and a wide experience in the use of the facts, ideas, concepts, and thought patterns associated with a given subject matter. The learner comes with limited experience, immature thought patterns, and an interest which must be engaged.

All subject matter is inherently interesting if presented as having or serving some purpose or if presented in some problem context. One should begin not with ready-made subject matter but should start with an actual empirical situation capable of initiating interest and thought. Interest and thoughtfulness can be gained by duplicating the sort of activities typically engaged in outside the classroom, by putting something at stake, by requiring reflective thinking, and by placing discussions within a social context. This will avoid isolating subject matter from end-directed activities. The, "connection of an object and a topic with the promotion of an activity having a purpose is the first and the last word of a genuine theory of interest in education". (p. 135).

Teaching methods are not substitutes for subject matter knowledge. Standard methods are only good if they lead to thoughtfulness. Method cannot exist apart from subject matter because method is the particular arrangement of subject matter which causes method to be effective in use. Method can be thought of as the effective use of subject matter to achieve results or the establishment of conditions which exact, promote, and test thinking.

Since, "thinking is the method of intelligent learning" (p. 153), material must be intruduced through an empirical situation that serves some purpose. Teachers should give learners something to do so that each may be allowed to learn and note connections within the subject matter. In doing this, situations must be selected which balance the difficult with the familiar and which stimulate the observation of connections.

The process of learning, not correct answers, must be emphasized. Emphasizing correct answers leads students into rote memory patterns at the expense of reflective thinking, which would otherwise allow facts to be connected thus serving future efforts. In addition, dealing with fewer facts helps emphasize thinking. Those facts that are presented should grow out of some question which concerns the student and fits into the student's existing knowledge scheme.

Method should not be structured so as to eliminate all possibilities of mistakes. Such an approach restricts student initiative, reduces opportunity to make judgments, and implies an environment which discourages innovation.

Learning

The criterion of a good learning aim is that it be, "an outgrowth of existing conditions...it must be capable of alteration to meet circumstances...the aim most always represent a freeing of activities", (p. 104). Learning aims include development of curiosity, responsiveness, openness, social competency, and freeing of individual capacity...

The attributes of a learner, "which are central in effective intellectual ways of dealing with subject matter...are...directness, open-mindedness, single-mindedness (or wholeheartedness), and responsibility", (p. 173). The stages of growth in learning are in direct contact with the things of everyday experience, communicated knowledge, and self-organization of material.

"Thinking is the method of intelligent learning", (p. 153). This means that subject matter must be used to achieve some predetermined experimentally based (i.e. problem-oriented) purpose. Learning is a shared experience requiring operation within a situation, "the idea of education as continuous reconstruction (of experience)...is that it identifies both the end (i.e. the result or objective) and the process...It means that experience as an active process occupies time and that its later period completes its earlier portion...the later outcome reveals the meaning of the earlier...all education resides in having such experiences", (p. 78).

Initial learning is by trial and error which must ultimately support the learning of ideas through internal reflective processing. The essentials of the method of learning are the same as the essentials of reflection: an inherently interesting situation, a problem that grows out of the situation, the availability of information, the orderly development of solutions, and the opportunity to test solutions. Stated alternatively, the general features of individual knowing parallel the reflective situation: problem awareness, gathering and analysis of facts, development of ideas and suggestions for solution, test and application, and conclusion or judgment.

The specific methods of individuals are based on the problem at hand. There may be great diversity of form but all individual learning models are based on the reflective method. Effective learning is ultimately the habitual application of the reflective method. "In well-formed smooth-running functions of any sort there is no consciousness of separation of the method of the person and the subject matter. In whole-hearted play and work there is the same phenomenom", (p. 166).

Learning must take place in the scientific spirit and be future oriented. This implies active involvement. Activity in learning means not only use of senses or muscular movement but of imagination as well. The use of knowledge must be in the service of problem solving or imaginative reconstruction or projection, otherwise it cannot truly be considered knowledge.

Summary

In conclusion, one can see that Dewey does provide the basis for an integrated framework for developing answers to the three problems raised at the beginning of this article. The foregoing sections on thinking and learning provide a basis for describing critical thinking; the section on subject matter provides a direction as to which subject areas critical thinking should be taught, and the section on teaching addresses a pedagogy for teaching both subject matter and critical thinking at the same time.

Democracy and Education does not represent all that Dewey has to say on teaching for critical thinking. Interested readers should also consult these works by Dewey: *How We Think* (the 1933 edition); *Experience and Education;* and *Logic - The Theory of Inquiry.*

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RISK TAKING BEHAVIORS COMPARED TO CRITICAL JOB VARIABLES

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The literature on risk taking contains two major approaches. One approach, rational risk taking focuses on the willingness or reluctance to accept risk when choosing between alternatives with known probabilities. The second approach, interpersonal risk taking, is concerned with the propensity to engage in self-disclosure in interpersonal relationships. While the two themes have been explored in the popular literature, in Maccoby's *The Gamesman*, for example, scant empirical research has been conducted on the relationship between the two dimensions of risk taking. While the research is scant, folklore abounds. Images of the cold, closed, calculating decision maker or the overly-sensitive, disclosing person who can never make a significant impact on the design and relative acceptability of academic curricula, organization development interventions, and skill enhancement workshops.

One reason for the lack of integrative research between the two risk taking approaches is that they tend to fall into the domain of different disciplines. Rational risk taking has been studied primarily by decision theorists. Their focus has been on the relative merits of quantitative decision rules. On the other hand, interpersonal risk taking has been studied primarily by behavioral scientists. Their focus has been on justifying interpersonal risk taking as the desired way of relating to others. A brief discussion of the two approaches highlights their different orientations.

Early normative approaches to decision making suggested that the maximization of expected value is an appropriate decision rule when the payoffs and probabilities of outcomes are known. Studies of actual decision making demonstrated that individuals do not invariably follow the expected value criterion (Edwards, 1953, 1955). This can be partially attributed to fallacy of the implicit assumption behind the expected value criterion that individuals are indifferent towards risk or risk neutral. As a result of mounting empirical evidence (Edwards, 1954; Coombs and Pruitt, 1960) that individuals vary in their willingness to accept alternatives with known risks, the research began focusing on the risk taking phenomenon. This research has been very diverse and the results generally inconclusive. Examples of diverse independent variables are perceptions of being lucky or unlucky (Chone, 1960); gender (Kass, 1964); status (Scodel et. al., 1959; and achievement motivation (Litting, 1963). These studies have examined choice situations with specific characteristics. Generally, the payoffs have involved either money or other tangible objects such as gambling chips, candy, or other prizes. The probabilities of outcomes were either known (dice throwing) or subjectively determined (basketball throwing). In all cases, the choice situations were amenable to cognitive evaluation. Central to this approach is that effective decision making results from the use of rational, analytical skills to evaluate alternatives and to select the alternative which maximizes expected payoff.

Interpersonal risk taking has a parallel history. The concept is best captured in Argyris' (1962) notion of interpersonal competence. A necessary condition for interpersonal competence is a willingness to be self-disclosing as well as being receptive to disclosures from others. Willits (1967) defines the corresponding state variables, openness, as the accurate sharing of one's views, feelings, and intentions with another about things of concern to one or both.

Operationally, interpersonal risk taking is displayed through self-disclosure. Much like the research on rational risk taking, the research on self-disclousre is diverse and the results ambiguous. Self-disclosure has been studied in relationship to gender (Doster and Strickland, 1969); race (Jourard and Lasakow, 1958); culture (Jourard, 1971); personality (Seensen, 1968); affective orientation (Halverson and Shore, 1969); order of birth (Diamond and Hellkamp, 1969); religious orientation (Jourard, 1961); and reciprocity (Ehrlich and Graeven, 1971).

While the two approaches have been sjbjected to substantial research, possible relationships between the two approaches have not been adequately investigated and remain speculative. The possibility that a negative relationship exists was suggested by Argyris' (1962) influential study of the effects of T-group training on business executives. Argyris found that the control group's awareness related only to the rational, technical, and intellectual aspects of organizational problems while the

experimental group was conscious of the interpersonal and emotional aspects of organizational problems as well. Argyris suggests that an individual's cognitive side is encouraged within organizations while the affective side is discouraged. A similar theme is presented in Maccoby's (1976) popular book *The Gamesman*. In Maccoby's terms, issues of the head are favored over issues of the heart in organizations. An alternative hypothesis, suggesting a positive relationship, could be made by viewing rational risk taking and interpersonal risk taking as two components of an overall propensity to make risky decisions. In this view, the decision of self-disclose is merely another type of decision and subject ot the same overall propensity. A case for unrelatedness could be made by arguing that while the two concepts are related semantically (choosing to call both risk taking), deciding to self-disclose and choosing among impersonal alternatives might simply be independent activities. The ambiguity suggests that there is need for more research into the nature of the relationship and its organizational relevance.

The Study

The purpose of the present study was to investigate the relationship between rational and interpersonal risk taking. In addition, the study investigates the relationships among the two risk taking dimensions and three organizationally relevant variables, job performance, job related stress, and job satisfaction. To facilitate the investigation, two settings were selected that are known for their riskiness, the national commodities market and the new producers market. Few people work in a riskier environment than commodity brokers. The commodity broker operates in an atmosphere of uncertainty due to the randomness of the market. To be successful, brokers must possess a wide range of skills. In making trade decisions, a premium is placed on rational risk-taking. At the same time, brokers interact with clients on a day-to-day basis and must also be interpersonally skillful. Product managers also perform in an atmosphere of uncertainty due to the unknowns in the development, introduction, and acceptance of a product. They are required to make critical decisions based on their perceptions of future events. Interpersonal skills are equally important because product managers do not generally have functional authority over key groups who can influence the product's successful introduction.

Risk is an inherent characteristic of this research setting; therefore, it would be expected that performance would be positively related to risk taking propensities. Following Argyris' (1969) observation that organizational reward systems favor the development of rational skills over interpersonal skills, rational risk taking propensities would be expected to be more strongly associated with job performance than interpersonal risk taking propensitites.

Kahn et. al. (1964) suggested that one of the core problems related to organizational stress is a lack of appropriate roles for individuals. Clearly the present research setting would be more compatible with individuals willing to take risks, thus propensities increase. On the other hand, job satisfaction would be expected to increase as risk taking propensities increase. This would result not only from reduced job related tension, but through the experience of successful role performance.

Two groups of subjects were used in this study. One group consisted of commodity brokers, the other, product managers. Both groups had similar characteristics. They were predominantly male (93%), approximately 75% had at least a bachelor's degree; and the majority (60%) were between 30 and 50 years of age. A questionnaire was administered which contained the following five scales:

1. Rational risk taking
2. Kob related tension
3. Job satisfaction
4. Productivity
5. Interpersonal risk taking

Each risk taking dimension was divided at the mean to form high and low groups. Analysis of variances were used employing a completely randomized factoral design (C.R.F. 2 x 2 x 2). These analyses permitted a determination of significant differences between combinations of high and low risk taking propensities and job performance, job tension, and job satisfaction.

Results

The results of this study suggested that rational risk taking and interpersonal risk taking propensities are unrelated concepts. The mean scores on the various scales generally followed the expected pattern (see Table 1). The highest performance, greatest job satisfaction, and lowest job tension occurred in the group with high rational and interpersonal risk taking propensities. The converse was also found to be true. The mean responses of the two mixed propensities categories suggest that rational risk taking has more influence on performance while interpersonal risk taking has more influence on job satisfaction and job tension. When the traditional standards of statistical significance are applied, performance is only related to rational risk taking propensities while job satisfaction and job tension are only related to interpersonal risk taking propensities. A comparison of the two groups show that while there was no difference in performance, product managers were more satisfied and experienced less job related tension (see Table 2).

Discussion

The finding that rational and interpersonal risk taking propensities are unrelated has important implications to a wide range of issues. The suspicion that the two propensities might be inversely related has been a major barrier to the acceptance of interventions directed at increasing interpersonal risk taking (Odiorne, 1963). This lack of acceptance flows from the idea that rational risk taking is a desired and necessary condition in sociotechnical organizations, particularly, in business organization. This study suggests that such suspicions may not be well founded. The lack of an observed relationship between the two would suggest that one can be enhanced without necessarily diminishing the other.

The finding that performance is only significantly related to rational risk taking propensities needs to be qualified. The performance of both groups of subjects in this study is very much influenced by the quality of the decisions they make. In those cases where the impact of decisions on performance is less, the relationships may not be so strong. The finding that interpersonal risk taking propensities is not significantly related to performance should not be over interpreted. For both groups, performance was the highest for those subjects scoring high on both dimensions although it was not statistically significantly so. The finding that interpersonal risk taking propensities was directly related to job satisfaction and inversely related to job tension would suggest that low propensities may well be associated with turnover, absenteeism, and psychosomatic illneses, all negative influences on performance.

The results of this study supports the position taken by behavioral scientists such as Argyris, Rogers, Gibbs, Schutz, and Jourard that openness is a preferred way of being. They, among others, have suggested that individuals waste a great deal of energy by holding back, concealing, and being generally vague when interacting with others. This study suggests that individuals who have a low propensity to interact in an open way, experience relatively high job tension and low job satisfaction.

The relationship between interpersonal risk taking and job related tension has special significance. Job related stress has emerged as a major concern for organizational theorists and health care specialists alike. The psychological and physical effects of stress have been well documented and attention has turned to ways to reduce stress or increase coping abilities. While overcoming the dysfunctional elements of stress is surely complex, the findings of this study lends support for the stance long taken by Organizational Development theorists that the stressfulness of jobs can be reduced by creating climates of trust that encourage and facilitate interpersonal risk taking. Also, the observed relationship reinforces the notion that interventions aimed at promoting interpersonal risk taking and developing related interpersonal skills can be viable elements in management development programs.

Summary

In conclusion, this study found that rational and interpersonal risk taking are unrelated for two groups of subjects. Furthermore, it was found that performance was only significantly related to rational risk taking, while job satisfaction and job tension were only related to interpersonal risk taking. These findings have important implications to the design of academic curricula, management development programs, and organization development interventions.

Table 1
Mean Responses for Rational Risk Taking (RRT) and Interpersonal Risk Taking (IRT) for Commodity Brokers (CB) and Product Managers (PM).

RRT	IRT	Productivity		Job Satisfaction		Job Tension	
		CB	PM	CB	PM	CB	PM
H	H	8.83	4.14	57.11	76.15	41.83	36.14
H	L	8.00	3.73	52.35	70.82	47.82	40.69
L	H	6.72	3.67	54.00	70.88	44.10	38.44
L	L	6.29	3.00	43.71	69.00	49.29	43.64

Table 2. **Analysis of Variance**

Source	Productivity			Job Satisfaction			Job Tension		
	df	MS	F	df	MS	F	df	MS	F
A(Groups)	1	.01	.01	1	7333.43	56.38***	1	572.12	8.81**
B (RRT)	1	10.25	11.16**	1	246.30	1.89	1	12.81	.19
C (IRT)	1	.40	.43	1	790.62	6.08*	1	621.56	9.57**
AB	1	.20	.22	1	76.94	.10	1	41.37	.64
AC	1	.11	.12	1	13.12	.60	1	2.00	.03
BC	1	.05	.06	1	105.56	.81	1	10.44	.16
ABC	1	.87	.94	1	1.81	.13	1	27.68	.43

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

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ARE EDUCATIONAL ADMINISTRATORS REALLY COMPETENT

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School business administration has been described as an aspect of educational adiminstration which is integrated with all phases of the educational process. As Colmey and Hill assert:

> No hard and fast lines can be drawn between the business administration and the educational administration of the school system. Practically every educational decision has business implications. Likewise any business or dollar and cents decisions has educational implications. The obvious fact is that all phases of school administration are interrelated...Historically, school business administration has been one of the first areas to be carefully delineated and assigned to a person other than the adminisrator chiefly responsible for the instructional program. (1)

In fact, as early as 1928, Englehardt and Alexander stated:

> There is no series of problems more certainly claiming the attention of administrators today than those of financing our public school system. Our critics are constantly proposing that the amount of money spent for public schools is excessive. They sometimes suggest that if our methods of conducting the business affairs of the school system were improved, savings could be affected. (2)

School business administration as a profession has made large strides in achieving a preeminent position in many school districts. Jordan stated that the three main reasons for this growing importance were the increase in the goegraphical size of districts due to consolidations and mergers, an increase in the size and complexity of both educational programs and the services provided by schools, and the increase in dollar magnitude of the educational program. (3) Fensch and Wilson stated that when boards of education give the superintendent license to select his first assistant he invariably selects an administrator responsible for the business functions. (4)

In the early years of the profession the school business administrator was chiefly concerned with the budgetary matters of the district. Subsequently, his role expanded to encompass virtually all the non-instructional support services of the district relating to the plant, transportation, food service, purchasing, non-instrutional personnel, and risk management. Most recently in the face of declining enrollment, spiralling inflation, and societal and economic changes in general, the school business administrator's role has assumed a more complex character in order to meet the challenges of the current educational climate.

This emerging role includes such planning activities as the development of creative strategies for identifying alternative resources to permit new kinds of educational programs to operate in the future and the application of long range planning skills. As Knezevich and Folkes state:

> The need for long-term financial planning flows form the existence of program goals. since the program goals involve long-term action, so too should the financial planning. (5).

As a consequence, the school business administrator is becoming an even more influential member of the school district organizational hierarchy who will be making significant contributions in the district's overall decision making process as well as in administering the district's business operations.

To function effectively in this role many leading educators have traditionally held that some educational professional training and teaching experiences are highly desirable; some would require it as a prerequisite for appointment as business administrators. Studies in many sectors of the country suggest that about 75% of today's school business administrators have had some educational experience. (6)

While there is no predetermined set of qualifications or training requirements that will guarantee competency of the school business administrator, it shoudl be noted that a background in education in preparation for this position may be an important factor in the successful development of the progessional. Studies have depicted the growth of professionalism and the more advanced level of training associated with this role. (6,7,8)

Purpose of the Study

The need to meet the increasing demands on this role, require the identification and clarification of the competencies inherent in current functions and the development of appropriate training programs to accommodate this need. Furthermore, as the school business administrator's role becomes more complex, the competencies required for the job closely resemble, in structure, Katz's (9) taxonomy of skills of an effective administrator.

Thus, further examination by school officials of the necessary competencies of school business administrators is an area of vital interest to those individuals whose task it is to optimize resources in the educational setting. The author's investigation was designed to determine these competencies and their relative importance to superintendents, school business administrators, and school board presidents.

Research Tool

The research instrument used was developed by the investigator especially for the study. It represents a distillation of ideas and trends in the literature. The validated instrument consisted of 126 descriptive statements distributed among the following categories.

Section I - Knowledge Competency

A. Budget Planning and Financial Operations - nine statements
B. Purchasing and Supply Management - four statements
C. Plant Planning and Construction - three statements
D. Plant Operation and Maintenance - six statements
E. Food Services - three statements
F. Pupil Transportation - four statements
G. Management of Business Service Personnel - three statements
H. Office Management - six statements
I. Risk Management - three statements
J. General Business Management - four statements
K. Economics of Educational Finance - ten statements
L. Political Science - two statements
M. Educational Administration Theory - seven statements

Section II - Technical Skill Competencies

A. Budget Planning and Financial Operations - fifteen statements
B. Purchasing and Supply Management - eleven statements
c. Plant Planning and Construction - three statements
D. Plant Operation and Maintenance - ten statements
E. Food Services - five statements
F. Pupil Transportation - five statements
G. Management of Business Service Personnel - six statements
H. Office Management - four statements
I. Risk Management - three statements

Summary

The educational community in our country is one of dynamic character requiring highly knowledgeable and skilled management personnel to capitalize most effectively on the expenditure of billions of dollars each year. Since practically every educational decision has business implications, and, likewise, most business decisions in a school district have educational implica-

tions (10) the well trained, competent school business administrator is an essential contributor to the effective functioning of his school system.

In the early years of the profession, the school business administrator was chiefly concerned with the budgetary matters of the district. Subsequently, his role expanded to encompass virtually all the non-instrutional support services of the district relating to the plant, transportation, food service, purchasing, non-instructional personnel, and risk management. Most recently the school business administrator's role has assumed an even more complex character in order to meet the challenges of the current educational economic climate.

With the expansion of the role came a concomitant need for increased skills in several areas. Thus, questions arose as to what these skills are. Procedurally, this study surveyed the roles most intimately involved with the school business administrator in determining these skills with specificity.

Conclusions

An analysis of the data revealed findings which suggest the following conclusions:

1. That this study's national sampling of school officials having most direct association with the functions of school business administration confirmed that the knowledge and technical skill competencies selected for this study are important competencies required of the entry-level school business administator.

More than 90% (91.3%) of competency ratings ranged between highly important (rating of 4± on the research instrument). There were no competencies rated as either of no importance or minimal importance. This signifies that the vast majority, if not all, of the competencies analyzed in this study should be the basis of university and other programs designed to train entry-level school business administrators.

2. In terms of the responses on the questionnaire, the following areas were identified as those requiring the greatest degree of competence: budget planning and financial operations, purchasing and supply management, and risk management. These results generally concur with the findings of Oosting who stated that in terms of yearly time commitment, purchasing and inventory control and accounting and finance were two of the three most important functions of the school business administrator. Further confirmation of this finding occurred in Roe's 1954 study which revealed that all three areas were viewed as of great importance in terms of the functioning of the successful school business administrator.

Recommendations

It is recommended that:

1. School authorities, principally the superintendent and school board president and others responsible for selecting entry-level school business officials in local school districts might find it useful to incorporate into their selection process the job competencies for this position as analyzed in this study.

2. University and other officials responsible for developing training programs for entry-level school business administrators regardless of geographical location might utilize to advantage the findings of this study as a guide in developing program objectives, course emphasis and content.

3. A university training program responsive to the findings of this study would have its major foci on the knowledge and technical skill competencies related to budget and financial development and control, purchase and supply management, and risk management. These should be reinforced by a strong background in personnel and office management, and some instruction in the theory and practical applications associated with the remaining competency areas identified in this study.

4. Individuals aspiring to the position of school business administrator in the continental United States might evaluate their own qualifications in terms of the competencies perceived as being necessary for examplary on-the-job performance.

5. Officials of State Departments of Education with the responsibility in the areas of developing and enforcing standards of certification for school business official positions in local school districts might consider updating their current qualifying standards for these positions in light of the findings of this study.

Concluding Observations

The competency-based movement has experienced considerable growth over the past decade. It has received world-wide recognition as an important educational movement-praised for its promise criticized for its shortcomings, and tested in diverse settings with programs based upon various theoretical constructs. The findings of this study have identified the competencies necessary to perform just one of several important roles in educational administration and as we progress in our understanding of these roles other important revelations about them will emerge.

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INTEGRATING BLACK LITERATURE INTO AN AGE OF HIGH TECHNOLOGY

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At a time when much attention in the English curriculm is focused on technical writing, occupational programs and computer literacy, it becomes essential for English instructors to re-assert what would appear obvious, namely, that English has long been classfied as one of the "Humanities" and hence, the major focus of the English curriculum should continue to reflect that classification. As a humanities field of study the English curriculm has the task of broadening students' awareness of an empathy with their fellow man. Traditionally this has been a major focus of most English courses and the pressing needs of today's money market, while recognized, must not be allowed to crowd this primary consideration aside. We live in a world torn apart by man's inhumanity to man and all the technical writing and computer literacy programs imaginable can do little if man does not respect his fellow man. Therefore, in any English curriculum a humanities emphasiss must be integrated with a technical emphasis.

This need was recognized by John Agresto in his article, "Educating About Compassion," in the Summer, 1982 issue of *American Educator.* As a basis for his article, Agresto quoted Sir Thomas Brown's words, "By compassion we make others' misery our own" from Brown's 1642 work, *Religio Medici.* Agresto proceeded to include a selection of resources designed to develop students' capacity to empathize with others; significantly none of the selections included was written by an Afro-American. It seems imperative at a time when racism appears to be on the rise in our society (witness the increased activities of the Ku Klux Klan and the recent negative report of the Joint Center For Political Studies - an organization which describes itself as a non-partisan research group studying "issues of special concern to Black Americans") that those involved in the "teaching" of empathy and compassion focus their energies on integrating Black Studies into the mainstream of their programs. The omission of Blacks in an article dealing with compassion brings to mind the alarming words of Ralph Ellison's black narrator in *The Invisible Man:*

> I am an invisible man. No, I am not a spook like those who haunted Edgar Allan Poe; nor am I one of your Hollywood movie ectoplasms. I am a man of substance, of flesh and bone, fiber and liquids - and I might even be said to possess a mind. I am invisible, understand, simply because people refuse to see me. Like the bodiless heads you see sometimes in circus sideshows, it is as though I have been surrounded by mirrors of hard, distorting glass. When they approach me they see only my surroundings, themselves, or figments of their imagination - indeed, everything and anything except me.

In the December 1981 issue of *College English* Richard Yarborough expressed concern that "with the fiscal belt tightening which most schools will undergo in the 80's, prospects for the future of Black Studies are hardly bright." Even before the lean years of the 80's the decline of Black Studies courses caused concern to those interested in them. In the August, 1978 issue of *Ebony* Alex Poinsett observed:

> By the mid 1970's the Black Studies crusade, which had launched academic programs at about 500 of the nations' 3,000 colleges and universities, gradually fizzled out as white college administrators quietly reneged on solemn commitments made to Black Students in the heat of battle.

Similar statements have appeared in a variety of newspapers and magazines since the mid 70's.

The writer of this paper conducted two separate investigations (1973 and 1978) of Black literature courses offered in the colleges and universities of New York State. The first step was to identify those institutions offering such courses. For both investigations an HEW list of institutions of higher learning in New York State was used as a base point for contact. Both times the registrars of the institutions appearing on this list were contacted and asked if they had offered a Black literature

course during the academic year under consideration. In 1973 76 of the responding registrars (74.1% of those contacted) and in 1978 36 of the responding registrars (64.7% of those contacted) said that such a course was offered. Even allowing for variations in institutions responding, it seems safe to conclude that there was a substantial decline in the number of Black Literature courses offered in New York State's colleges and universities between 1973 and 1978. If the decline continues we will soon reach the pre Civil Rights neglect of this literature, a situation which can only lead to a further polarization of the races and an unfortunate ignorance on the part of all segments of the American public, an ignorance which Richard Yarborough alluded to when he stated that "there are far too many Ph.D.'s in American literature who have never studied a single work of Afro American literature at the graduate level."

The integration of Black literature in this era of high technology should take place in two ways: 1) the literature should be mainstreamed into traditional literature courses, and 2) the literature should be presented in separate courses devoted exclusively to the presentation of Black literature.

The mainstreaming of Black literature has moved very slowly, no doubt because many of the instructors of traditional literature courses have a rather meager acquaintance with the works of Black writers. Even as recently as 1978 only one half of the instructors of Black Literature courses in New York State had earned any academic credits in the area of Black literature; it thus seems reasonable to conjecture that instructors of traditional literature courses probably would have less formal academic preparation in Black literature and probably less motivation to engage in independent study. Nevertheless, it is vital that these instructors attempt to rouse themselves from their apathy and acquaint themselves, at least minimally, with some of the major Afro American writers of the past and the present so they can perform the vital task of including at least some Afro American writers in their courses. If they fail to do so they are perpetuating the lie of Black intellectual inferiority via the sin of omission.

Black literature courses as a separate entity came into being as part of the Black Studies Movement of the late 60's and early 70's and they were (and still are) called into question as being academically sound. Many cirtics of such courses have argued that the works of Black writers should be presented only in traditional literature courses rather than being presented separately, that "literature is literature" regardless of the racial background of the author. While mainstreaming Black literature is important, there are three major arguments against abolishing Black literature courses. First, Black writers have not been included to any great extend in traditional literature courses. Neither in 1973 nor in 1978 did any of the instructors participating in my survey feel that Black writers had been satisfactorily included in traditional literature courses. Secondly, as already discussed, instructors of traditional literature courses are probably not very well qualified to teach Black writers. Thirdly, Black American literature (as well as non-American Black literature) is rooted in its own literary and cultural tradition. Black American literature has some of its roots in the oral tradition brought from Africa and continued during the days of slavery when most slaves could neither read nor write. Black American Literature was born of a lifestyle unknown to most Americans of other ethnic backgrounds and this lifestyle has been reflected in the works of Black writers. Black literature courses are definitely fulfilling a need; they are closing an intellectual gap that must be closed.

When teaching Black literature many instructors tend to rely exclusively on certain well established writers such as Richard Wright, James Baldwin, Ralph Ellison and Tone Morrison, and they also tend to place a very heavy emphasis on the literature of the 20th Century. To present an honest picture of Afro American literature the works of earlier authors must also be included. Black writers such as Phillis Wheatley, Frank Webb, William Wells Brown, Charles Chesnutt, Frances Harper and Paul Lawrence Dunbar were producing meritorious literature well before the 20th Century.

To assure the widespread dissemination of Black literature, the following steps should be seriously considered:

1. Colleges should be urged to include courses in Black Literature open to all students, but held as a requirement for all undergraduate English majors.

2. State Certification of English teachers at the secondary level should require at least one course in Black Literature.

3. In service training (workshops and/or seminars) in the area of Black Literature should be made available to high school and college teachers of English who have had no previous courses in Black Literature.

4. Teachers of English and textbook selection committees should be active in urging textbook publishers to include the works of Black writers in literature anthologies.

5. Librarians should actively promote the inclusion and circulation of the works of Black authors in school and college libraries.

To ignore the obligations to present Black literature is to revert to the pattern of literature instruction so prevalent prior to the 1960's when Black writers were infrequently taught.

WEB Dubois, a Harvard Ph.D., a writer, a great Black scholar, became alarmed at the prospect of what a purely technical education would accomplish and in 1903 he sounded the following words of warning:

> If we make money the object of man-training, we shall develop money-makers but not necessarily men; if we make technical skill the object of education, we may possess artisans, but not, in nature, men. Men we shall have only as we make manhood the object of work of the schools - intelligence, broad sympathy, knowledge of the world that was and is the curriculum of Higher Education which must underlie true life. On this foundation we may build bread winning, skill of hand and quickness of brain with never a fear lest the child and man mistake the means of living for the object of life.

We owe it to our students to develop both their intellectual awareness and that "broad sympathy" Dubois spoke of; if we do not do this then we will have failed them.

PART II

DISSERTATION ABSTRACTS

THE MEASUREMENT OF SPECIFIC OUTCOMES OF THE COLLEGE DISCOVERY PROGRAM OF THE CITY UNIVERSITY OF NEW YORK

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The nature and essence of programs intended to remediate academic deficiencies for specific groups of students at the college level are the subject of a great deal of debate. Measurement of the outcomes of these programs have, in the main, consisted of subjective evaluations based essentially on the reporting of descriptive data.

This dissertation involves the use of the statistical methodology of analysis of covariance which reduces the risk of bias by introducing control variables in determining the differences in outcomes between College Discovery Program participants and regular matriculants at four community colleges of the City University of New York. Utilizing academic performance (grade point average) and persistence (credit completion) as the dependent variables the effect of participation in the College Discovery Program on these variables is compared to that of a sample of regular matriculants. Control variables such as student age, high school graduation average, time between high school graduation and college, excess hours in compensatory courses, college of attendance, type of high school diploma, agency of admission to college, the receipt of veterans benefits, and gender were included in order to determine the effect of participating in the Program while possessing one of these subgroup characteristics.

It was found that, overall, students in the College Discovery Program achieve levels of academic performance and persistence which are no different from those of regular matriculants. When subgroup membership was taken into consideration, significant differences in performance and persistence were shown between Program students and regular matriculants based upon age, agency of admission, gender, and college of attendance. Further, each of the control variables demonstrated a significant relationship to performance and persistence in at least one of six regression equations. Finally, the interaction variables which were created as the product of the College Discovery Program variable and each of the control variables indicated that being in the Program and possessing a specific characteristic is related to the outcome variables.

A GENERAL SEMANTICS APPROACH TO ALIENATION

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The purpose of this study was to determine whether general semantics instruction would reduce three dimensions of alienation among junior high school problem students, and to create a course of study in general semantics which would cause such a reduction of student alienation.

The rationale for the study is that alienation stems from powerlessness (a felt lack of control over events in one's environment), feelings of self-estrangement (lack of full involvement with tasks), and feelings of cultural estrangement (focus on inappropriate goals). General semantics is a system of epistemology that deals with the application of the scientific method to problems of everyday life. General semantics techniques were taught to alienated students to help them cope with school related conflicts.It was thought that such training would enable the students to feel more motivated and confident in academic situations.

A junior high school in New York City was the test school. Eighth and ninth grade students who were referred for counseling were the units of analysis. Counseling sessions were conducted by the investigator, over a 19 week period. The first 70 referred students were blocked by grade and randomly assigned to groups. Ten groups were formed, five experimental and five control, with seven students in each group.

A pretest on the Pupil Attitude Questionnaire (PAQ) indicated high levels of alienation among all the subjects. The experimental groups received 16 general semantics lessons, which were devised by the investigator and based on materials from leading authorities in the field. The control groups were given traditional guidance oriented lessons. The data underwent a T-test gain score analysis.

The results indicated that general semantics instruction produced significant decreases on all three dimensions of student alienation beyond the .001 level. Analysis of a student questionnaire revealed that general semantics groups felt they had gained something of personal value from the experience. As an ancillary facet, it was noted that the results of this study gave strong evidence that the slow learner can effectively master and apply general semantics principles.

The field of general semantics has only recently been looked at by concerned educators. Related studies have shown increased reading ability, critical thinking, creativity, and decreased feelings of prejudice among students trained in general semantics techniques. These studies and this dissertation indicate the relevance and viability of a general semantics approach as part of a child's education. It is recommended that future researchers consider how to most effectively apply this approach in various educational settings.

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